

Thermodynamics Laboratory

Course Code: 28702
Credits: 1
Course Type: Practical
Prerequisites: -
Corequisite: Thermodynamics II
Course Length: 34 Hours

Outline:

1. One/two-stage compressor

Drawing the characteristic curves for the compressors and the representation of their mechanical and polytropic efficiency on the basis of the measurements.

2. Diesel single-cylinder engine

The measurement of the engine power and Drawing the graphs for the torque, the thermal efficiency, the power, and fuel consumption.

3. Gas turbine

Drawing the curves for the isentropic efficiency of the turbine and the compressor on the basis of the mechanical efficiency.

4. Heat pump and refrigeration cycle

The investigation of the refrigeration cycle/heat pump and the calculation of the refrigeration capacity as well as thermal/cooling COP.

5. Compressible flow in a nozzle

The investigation of the characteristic curve in the nozzle and the behavior of the compressible flow.

References:

Thermodynamics Laboratory Booklets, prepared by M.B Shafii., M. Zabetian & N. Najafpour.